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Retinoscopic reflexes: An educational video for beginning clinicans

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Abstract

Retinoscopy is a widely used objective method of finding a patient's refractive error, but many students and beginning clinicians find it challenging to learn. Even with a thorough explanation, students can still have difficulty visualizing what they should see during retinoscopy. Having only a vague idea of what retinal reflexes look like can make their first experiences with retinoscopy frustrating and challenging. This nine-minute video was created to show students what actual retinal reflexes look like. It shows'examples of with, against, and neutral reflexes, as well as how to neutralize with and against motions. Astigmatic and dilated reflexes are also shown. We feel the video would make a great teaching aid for instructors to use in lectures and for students to review individually.

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Retinoscopic Reflexes:

An Educational Video for Beginning Clinicians

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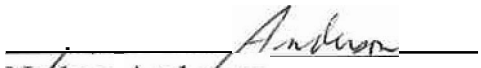
Author 
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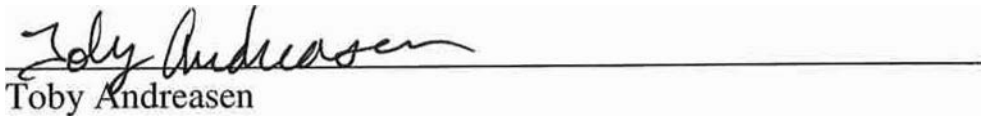
Author 
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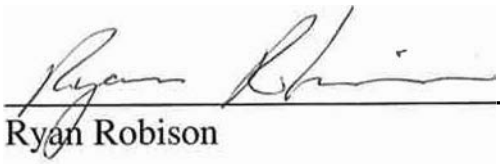
Author 
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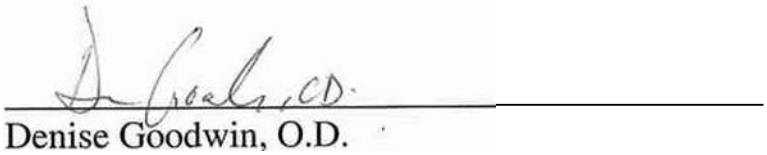
Advisor 
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Nathan Anderson

Nathan Anderson is from Lewiston, Idaho. He briefly attended Lewis Clark State College in Lewiston, and then went on to receive a Bachelor of Science degree in Exercise Physiology from Brigham Young University in Provo, Utah. He is currently a fourth year intern at Pacific University College of Optometry. After graduation, he plans to practice in the United States Air Force.

Toby Andreasen

Toby Andreasen grew up in the small town of St. Anthony, Idaho. He graduated from Brigham Young University in Provo, Utah with a Bachelor of Science in Microbiology. Currently, he is a fourth year intern at Pacific University College of Optometry. He plans to settle down in the Pacific Northwest with his family, practicing full-scope optometry in a partnership or small group practice. His interests include ocular disease and contact lenses.

Ryan Robison

Ryan Robison is from St. George, Utah. He received his Associates degree from Dixie College in southern Utah and then transferred to Brigham Young University in Provo, Utah. There he received his Bachelor of Science degree in Business Management. He is currently a fourth year intern at Pacific University College of Optometry. Upon graduating He hopes to be located in Utah and plans to have his own practice in the near future.

Abstract

Retinoscopy is a widely used objective method of finding a patient's refractive error, but many students and beginning clinicians find it challenging to learn. Even with a thorough explanation, students can still have difficulty visualizing what they should see during retinoscopy. Having only a vague idea of what retinal reflexes look like can make their first experiences with retinoscopy frustrating and challenging. This nine-minute video was created to show students what actual retinal reflexes look like. It shows examples of with, against, and neutral reflexes, as well as how to neutralize with and against motions. Astigmatic and dilated reflexes are also shown. We feel the video would make a great teaching aid for instructors to use in lectures and for students to review individually.

Retinoscopic Reflexes: An Educational Video for Beginning Clinicians

Introduction:

Retinoscopy is a crucial technique for gathering objective data about a patient's refractive condition, yet it can be very challenging to learn. Even with the best explanation of the procedure, students can have difficulty visualizing what they should see during retinoscopy. Typically, students are taught this skill through lecture, demonstrations of setup and technique, still-frame diagrams, and animations. Although such instruction is invaluable, students can still be left with a vague idea of how actual retinal reflexes appear, making their first experiences frustrating and challenging. We created this video to demonstrate actual reflexes as seen through a retinoscope aperture. It is our hope that this resource will be widely used to prepare students for initial lab experiences and assist them in becoming proficient at retinoscopy.

Discussion:

This project involved filming through a retinoscope aperture in order to reproduce the same view that students and clinicians have when doing retinoscopy. Needless to say, this presented a technical challenge. Heine loaned us a retinoscope with a miniature camera mounted directly to the aperture. Initially this seemed like the perfect solution, but we found that the footage obtained with this device did not present a realistic picture. The retinoscope streak appeared stationary while the eye and background moved. We ended up simply holding a retinoscope in front of a normal digital camera on a tripod. In this manner we were able to capture footage in which the eye is stationary and only the streak moves. After editing the video footage, we dubbed in audio commentary and burned the DVDs.

The final DVD is nine minutes long. It begins by showing basic with, against, and neutral reflexes. Examples of neutralizing with and against motions are then given. Finally, astigmatic and dilated reflexes are shown. Brief audio explanations are included in each clip to facilitate

learning. For convenience, the title screen has links that allow viewers to select and view individual sections of the video they wish to see.

Eight copies of the video were produced in DVD format. It has been made available to the faculty of Pacific University College of Optometry and will be made available to interested faculty and students at other optometry schools for use in course curriculum and personal study.

Conclusion:

It is essential for optometrists to be proficient at retinoscopy, but such skills can be difficult to acquire. Beginners are often taught the concepts behind retinoscopy well before they *see* any actual reflexes. This video will provide students with a visual image of these reflexes, helping to alleviate much of the initial confusion experienced when learning retinoscopy.